UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/653,413	08/31/2000	Ruth Wilson	NC 80,172	5344

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EXAMINER
MANIWANG, JOSEPH R

ART UNIT	PAPER NUMBER
2144	//

DATE MAILED: 06/25/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.		Applicant(s)	
Office Action Summary	09/653,413		WILSON ET AL.	
	Examiner		Art Unit	
	Joseph R Maniwang		2144	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>18 April 2004</u>.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>23-44</u> is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>23-44</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All   b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action

can be found in a prior Office action.

Claim Rejections - 35 USC § 103

Claims 23, 24, 28, 30, 32-34, 36-38, and 40-44 are rejected under 35

U.S.C. 103(a) as being unpatentable over Chan (U.S. Pat. No. 6,381,603),

hereinafter referred to as Chan, and further in view of what was known at the

time of invention.

Chan taught the distribution of geospatial data over a network in real-time

(see column 2, lines 10-28). Chan disclosed the use of maps stored in a

database representing the geospatial data (see column 9, line 58 through column

10, line 8). Chan disclosed the possibility of arranging databases in an object-

oriented manner for attribute searching, storing the database in a computer

system on the network (see column 8, lines 10-11; column 7, lines 56-59). Chan

disclosed displaying points on a map representing points of interest (see column

9, line 67 through column 10, line 3). The points of interest represented search

results of a query that the user could make about the data in the event database,

received over the network and displayed on the user computer (see column 2,

lines 54-56; column 9, line 58 through column 10, line 19). Chan disclosed the

use of time criteria in the invention (see column 9, lines 45-50). Chan disclosed

distributing data including spatial and temporal information over a network (see

column 9, line 59 through column 10, line 1). The database was disclosed to

contain both spatial and temporal information and stored on a computer system

in the network (see column 7, line 54 through column 8, line 11 and column 9,

lines 45-50). Chan disclosed querying the database using spatial criteria (see

column 9, lines 18-33). Chan disclosed a system to distribute spatial and

temporal information in real-time over a network, including a server coupled to a

database storing both spatial and temporal information, the ability to query the

database, and displaying a map image, areas of interest, and data associated

with the areas of interest on the map (see column 9, line 51 through column 10,

line 34). The system disclosed by Chan included a server for storing and

querying database information (see column 2, lines 29-38), and a client that

communicated to the server over the Internet for querying the database (see

column 2, lines 54-56). Chan disclosed the server operating under the Solaris

operating system (see column 7, lines 49-51), while the client operated under the

Windows operating system (see column 8, lines 38-40). Chan disclosed the

ability to update the database through the Internet (see column 2, lines 39-53).

Chan disclosed the ability for a server to not only service an information

consumer but to also receive from an information provider updated database

information (see column 2, lines 29-53). In this way, the server acts as a client-

server as claimed.

Chan did not explicitly disclose the use of two or more disparate data

formats. Specifically, Chan did not disclose any of the claimed data formats for

use with the geospatial data, such as Vector Product Format (VPF) or Raster

Product Format (RPF).

Examiner takes Official Notice (see MPEP § 2144.03) that the use of VPF

and RPF in a computer networking environment were well known in the art at the

time the invention was made. Specifically, VPF and RPF were known standard

formats for geographic data in GIS.

Chan disclosed the use of a map database (see column 9, line 63 through

column 10, line 1). Using VPF or RPF standards in such a database would have

been obvious since both standards were well known data formats for use in GIS

at the time of invention. One of ordinary skill in the art would have been

motivated to use such standards, as the invention would have benefited from the

adherence to a convention standard, increasing flexibility and efficiency as

desired by Chan (see column 3, lines 31-56).

Claims 23, 28, 29, and 31 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Darcie et al. (U.S. Pat. No. 6,577,714), hereinafter referred to

as Darcie, further in view of what was known at the time of invention.

Darcie disclosed a map-based directory service, where a server stored a

map database of geospatial data, along with other information relating to certain

geographical locations (see column 3, lines 17-28). Such a database was

disclosed as object-oriented (see column 7, lines 8-12). A user connected to the

server through the Internet could query the server for information corresponding

to a geographic region, the results of which were displayed with selectable icons

on the displayed maps (see column 2, lines 13-30; column 10, lines 29-37; column 15, line 37 through column 16, line 25). Darcie disclosed a structure for organizing data similar to that claimed by the applicant. The applicant defined a database as information grouped together for a specific purpose. Thus, Darcie taught the use of databases as claimed (see column 3, lines 17-28). The applicant defined a library as groups of features differing in scale and region. Accordingly, Darcie described such a hierarchical data scheme, where data could be displayed to differing degrees of detail (see column 5, line 56 through column 6, line 5). The applicant defined themes as a group of similar features, for instance features concerning transportation. Such a grouping system was taught by Darcie (see column 5, lines 43-50). Finally, features as claimed were taught by Darcie (see column 5, lines 41-43). The database server included a map database (see column 3, lines 17-20). Darcie disclosed that the information stored in the map database was structured as a spatial database (see column 5, lines 15-20). Darcie also disclosed the possibility of storing map data in vector format (see column 5, lines 21-32) or raster format (see column 5, lines 33-35), and that many GIS could be configured to handle both vector and raster data from a wide variety of sources (see column 5, lines 35-39). Darcie disclosed that the map database was an object-oriented database (see column 7, lines 8-12). Objects within the map database contained both spatial and non-spatial data (see Table 1).

While Darcie disclosed the ability to handle data from various sources containing vector and raster data, Darcie did not specifically mention the use of

Vector Product Format (VPF) or Raster Product Format (RPF) databases. Darcie further did not disclose the combination of objects from different sources (such as VPF or RPF databases) into a single database.

Examiner takes Official Notice (see MPEP § 2144.03) that the purpose of VPF and RPF in a computer networking environment were well known in the art at the time the invention was made. Specifically, VPF and RPF were known as standards for use in GIS, describing not product specification but rather a generic structure and format conventions for a dataset.

As Darcie disclosed the use of both vector and raster formats in a map database, it would have been obvious for such a database to employ a VPF or RPF convention, as each was a well-known standard for GIS data at the time of the invention. One of ordinariy skill in the art would have been motivated to use such standards as it was a goal in the invention disclosed by Darcie for a GIS to accept data from a wide variety of sources (see column 5, lines 35-39), the success of which is obviously benefited from the adherence to a convention standard. Furthermore, since Darcie desired the GIS—in the disclosed invention, a "database handler" (see column 4, line 65 through column 5, line 5)—to accept both vector and raster data from a wide variety of sources as previously recited, it would have been obvious to instantiate objects within the map database adhering to both VPF and RPF conventions, since the database handler disclosed retrieved all map data from the single map database (see column 5, lines 2-11).

Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Chan et al. (U.S. Pat. No. 6,381,603), hereinafter referred to

as Chan, in view of what was known at the time of invention, as applied to claim

23 above, further in view of Koller et al. ("Virtual GIS: A Real-Time 3D

Geographic Information System", GVU Technical Report GIT-GVU-95-14,

Georgia Institute of Technology), hereinafter referred to as Koller, and further in

view of Trovato (U.S. Pat. No. 6,183,364), hereinafter referred to as Trovato.

Chan disclosed the invention substantially as claimed as detailed above.

The system disclosed by Chan can be considered a Geographic Information

System (GIS), as it fits the definition of a GIS, which is a computer system for

capturing, storing, checking, integrating, manipulating, analyzing, and displaying

data related to positions on the Earth's surface. Chan did not disclose displaying

data objects in 3D, and further did not disclose converting the 2D data objects to

3D for display.

Koller taught of a "Virtual GIS", in which there was provided a 3D

visualization means for terrain data. Koller disclosed that such a Virtual GIS

could be used anywhere a traditional GIS could be used (see page 2, section 1).

Trovato disclosed an electronic game using map data to create a "rich

environment" (see Abstract). A rich environment was, for example, a simulated

city (see column 2, lines 30-33). The maps providing information for creating the

rich environments were two-dimensional (see column 2, lines 19-20).

Furthermore, rich environments were created from the 2D maps by an

"environment grower" (see column 2, lines 20-30).

Chan did not disclose displaying geographical data in 3D, but through the teachings of Koller, it would have been obvious to incorporate such an option. One of ordinary skill in the art would have been motivated to consider the use of 3D display in the invention of Chan, as Koller stated the possibility of using Virtual GIS anywhere a traditional GIS was used (see page 2, section 1). Furthermore, Chan stated the desire to provide fast and accurate information (see column 3, lines 30-56), the success of which would have been benefited from the use of Virtual GIS, as Koller disclosed that Virtual GIS provided advantages in both speed and detail in a GIS as compared to conventional 2D or even other 3D GIS (see page 2, section 1 and page 9, section 6). Claim 25 is thus rejected.

Using a process to convert 2D data into 3D data would have also been obvious to incorporate in the invention of Chan. Trovato taught the use of an "environment grower" that made use of 2D maps stored in a database to create rich environments, a type of which included the Virtual GIS mentioned above (see column 2, lines 19-35). Claim 26 is thus rejected, since Trovato disclosed such a Virtual GIS-type environment grower to convert 2D map data into a 3D rich environment for display as claimed.

Claims 27, 35, and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chan et al. (U.S. Pat. No. 6,381,603), hereinafter referred to as Chan (USPAT), as applied to claims 1, 12, and 16 above, and further in view of Chan et al. ("Efficient Query Result Retrieval over the Web", Proceedings.

Seventh International Conference on Parallel and Distributed Systems, 2000, 4-7 July 2000), hereinafter referred to as Chan (IEEE).

Chan (USPAT) disclosed the invention substantially as claimed as detailed above. Chan (USPAT) described a GIS using an object-oriented database over the Internet, but did not specifically mention conforming the system to the CORBA specifications.

Chan (IEEE) disclosed efficient methods for querying a database over the Internet. Of most interest is disclosed use of CORBA, stated by Chan (IEEE) to be commonly implemented in distributed object database servers (see Abstract). Querying databases over the Internet was also discussed by Chan (IEEE) in the context of a GIS (see page 161, section 1).

Chan (USPAT) disclosed a GIS, and further the ability to use a distributed database architecture (see column 7, lines 54-64) in which databases could be object-oriented (see column 8, lines 10-11). Chan (USPAT) further disclosed the use of the Internet as means for data distribution (see column 2, lines 13-17). Chan (IEEE) disclosed that in the Web environment, a database server was commonly implemented with a distributed object technology such as CORBA, such a database server referenced in context to a GIS (see Abstract). Therefore, implementing the distributed database architecture in the GIS disclosed by Chan (USPAT) to conform to the CORBA protocol would have been obvious, as it was disclosed by Chan (IEEE) to be a common practice for such database servers. Furthermore, the database disclosed by Chan (USPAT) was described as object oriented, distributed data objects over the Internet, and was used in a GIS, thus

benefiting from the use of the CORBA protocol, which was designed to facilitate

such communications.

Response to Arguments

Applicant's arguments filed 04/18/04 have been fully considered but they

are not persuasive. Additionally, Applicant's arguments with respect to claims 1-

22 have been considered but are moot in light of the cancellation of claims 1-22

and in view of the new ground(s) of rejection.

Examiner notes that a benefit of amending the claims is the ease of being

able identify the specific claim language that has been changed since the last

communication and thus to provide for better communication between the

Examiner and Applicant. While Applicant has the right to cancel all the existing

claims and add new claims (as Applicant has done), this method of amending

hinders prosecution more than the method described above. It is noted that the

newly added claims differ from the cancelled claims only through the addition of

the limitations of "objected oriented spatial database network" in the preamble of

claims 23, 28, 30, 32-40, and 44 (otherwise identical to the preamble of cancelled

claims 1, 6, 8, 10-18, and 22), and "including two or more disparate formats" in

the body of claims 28, 30, 34, 36, 38, 40 and 44 (otherwise identical to the body

of cancelled claims 6, 8, 12, 14, 16, 18, and 22).

Regarding claims 1, 2, 6, 8, 10-12, 14-16, 18, 19, 21, and 22 rejected

under 35 U.S.C. 102(e) as being anticipated by Chan, Applicant asserts that the

reference did not teach the newly amended claim limitations of the

implementation of an object oriented spatial database network and objects including two or more disparate formats.

In response to applicant's arguments, the recitation "object oriented spatial database" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Additionally, as shown in the above rejection under 35 U.S.C. 103(a) and in the rejection under 35 U.S.C. 102(e) in a previous action, Chan suggested the use of an object-oriented database. The limitation on which the applicant relies upon in this case is a broad description of the general use of object oriented programming within the system, a concept that Chan undoubtedly taught as shown above.

Applicant further asserts that Chan did not teach the use of two or more disparate data formats. Applicant's arguments with respect to this limitation have been considered but are moot in view of the new ground(s) of rejection. Examiner submits that this broad concept is suggested by the prior art as shown in the above rejections under 35 U.S.C. 103(a).

Regarding claims 1, 6, and 7 rejected under 35 U.S.C. 102(e) as being anticipated by Darcie, Applicant agrees that Darcie taught the use of an object oriented database, but did not teach the newly amended limitation of two or more disparate data formats. Applicant's arguments with respect to this limitation have been considered but are moot in view of the new ground(s) of rejection. Examiner submits that this broad concept is suggested by the prior art as shown in the above rejections under 35 U.S.C. 103(a).

Regarding claims 1 and 6 rejected under 35 U.S.C. 102(b) as being anticipated by Bouve, although the use of an object oriented spatial database was disclosed (see column 2, lines 2-4, 13-16; column 11, lines 24-30), Bouve does not specifically disclose the use of two or more data formats. However, Applicant's arguments with respect to claims 1 and 6 are moot in view of the new ground(s) of rejection.

Regarding claims 3 and 4 rejected under 35 U.S.C. 103(a) as being obvious in view of Chan in view of Koller and further in view of Trovato, Applicant asserts that Chan does not apply to the newly amended claims. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Furthermore, Applicant's arguments with respect to claims 3

and 4 have been considered but are moot in view of the new ground(s) of

rejection. Examiner submits that the broad concepts upon which the Applicant

relies are suggested by the prior art as shown in the above rejections under 35

U.S.C. 103(a).

Regarding claims 9 and 20, Applicant traverses the use of official notice

as the basis for a prior art rejection. However, MPEP § 2144.03 states "See also

In re Boon, 439 F.2d 724, 169 USPQ 231 (CCPA 1971) (a challenge to the

taking of judicial notice must contain adequate information or argument to create

on its face a reasonable doubt regarding the circumstances justifying the judicial

notice)." Specifically, In re Boon, 169 USPQ 231, 234 states "as we held in

Ahlert, an applicant must be given the opportunity to challenge either the

correctness of the fact asserted or the notoriety or repute of the reference cited in

support of the assertion. We did not mean to imply by this statement that a bald

challenge, with nothing more, would be all that was needed". Further note that

37 CFR § 1.671(c)(3) states "Judicial notice means official notice". Thus, the

traversal by the Applicant, merely "a bald challenge, with nothing more" is given

little weight.

Regarding claims 5, 13, and 17 rejected under 35 U.S.C. 103(a) as being

obvious in view of Chan (USPAT) in view of Chan (IEEE), Applicant asserts that

Chan (USPAT) does not apply to the newly amended claims. In response to

applicant's arguments against the references individually, one cannot show

nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Furthermore, Applicant's arguments with respect to claims 3 and 4 have been considered but are moot in view of the new ground(s) of rejection. Examiner submits that the broad concepts upon which the Applicant relies are suggested by the prior art as shown in the above rejections under 35 U.S.C. 103(a).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from

the examiner should be directed to Joseph R Maniwang whose telephone

number is (703) 305-3179. The examiner can normally be reached on Mon-Fri

8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the

examiner's supervisor, William A Cuchlinski can be reached on (703)308-3873.

The fax phone number for the organization where this application or proceeding

is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from

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direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-

free).

MARC D. THOMPSON

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PRIMARY EXAMINER

JM